

Understanding the Global Debate on Lethal Autonomous Weapons Systems (LAWS)

LAWS is a class of **advanced weapons** that can **identify** and **engage targets** without **human intervention**.

- At present, **no commonly agreed definition of Lethal Autonomous Weapon Systems (LAWS)** exists.
- **Ethical Question:** Can we ethically delegate life-and-death decisions to machines without compromising human moral agency and dignity?

The ethical debate on Lethal Autonomous Weapon Systems (LAWS)

For LAWS	Against LAWS
<ul style="list-style-type: none"> • Results-Oriented Justification (consequentialist): LAWS may improve precision, reducing civilian harm. <ul style="list-style-type: none"> ○ E.g., An autonomous missile with advanced targeting could minimize collateral damage. • Ethical Superiority: LAWS may reduce human error, potentially increasing the ethical conduct of military operations & better compliance with International Humanitarian Law (IHL). • Minimize Harm: By removing human soldiers from dangerous frontline operations, autonomous weapons could reduce the loss of life in conflict. 	<ul style="list-style-type: none"> • Lack of Human Judgment: LAWS, while precise, may lack the human ability to make ethical judgments in complex, fluid situations. • Accountability Issues: Assigning responsibility for the actions of autonomous weapons is complicated. <ul style="list-style-type: none"> ○ "Who is accountable? Is it the manufacturer? Or the person who programmed the algorithm?" – Nicole Van Rooijen • Undermining the human dignity: Of those combatants who are targeted, and of civilians who are put at risk of death. • The Banalization of Violence in Warfare: Increasing human distancing – physically and psychologically – from the battlefield, make the use of violence easier.

Ethical Concerns in in human-machine (Lethal Autonomous Weapon Systems) Interactions

- **Automation bias:** Where humans place too much confidence in the operation of an autonomous machine.
- **Surprises:** Where a human is not fully aware of how a machine is functioning at the point s/he needs to take back control.
- **Moral buffer:** Where the human operator shifts moral responsibility and accountability to the machine as a perceived legitimate authority.

India's First Variable Speed Pumped Storage Plant (VSPSP) Begins Operations in Uttarakhand's Tehri

Tehri Hydro Development Corporation India Limited (THDCIL) announced **start of commercial electricity supply** from first unit (250 MW) of 1 GW **Tehri Pump Storage Plant** located on the **Bhagirathi River**.

- **VSPSP** is a hydroelectric power plant that **uses variable speed technology to adjust the speed of the turbines and pumps**, offering greater flexibility and efficiency than traditional PSPs.

What is Pumped Storage Plant?

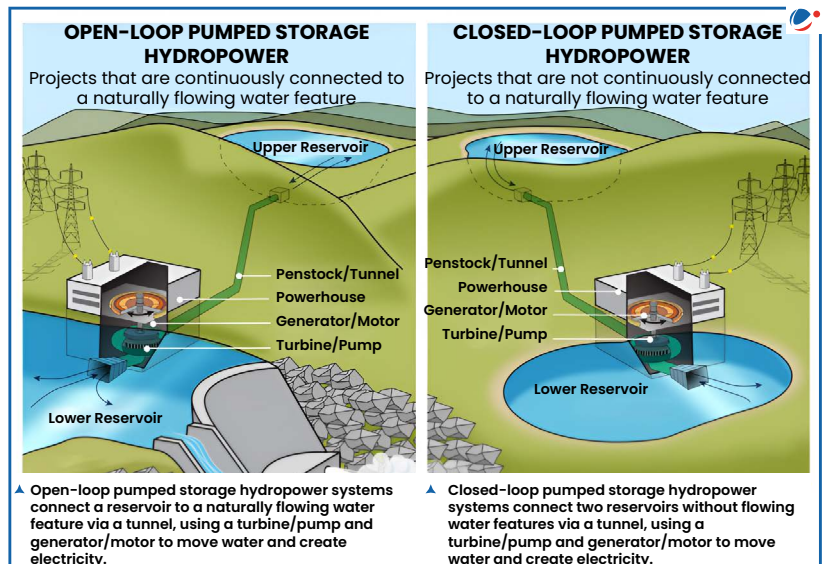
- It is a **configuration of two water reservoirs at different elevations** that can generate power as water moves down from one to the other (discharge), **passing through a turbine**.

Principal of Operation:

- ⊕ It uses **principle of gravitational potential energy** to store and generate electricity.
- ⊕ It is a type of **hydroelectric long duration energy storage**.

Working:

- ⊕ When the demand for electricity is low and there is **abundant renewable energy** available from wind or solar sources this excess energy is used to **pump water to upper reservoir**.
- ⊕ During **periods of high electricity demand**, the stored water is **released back down to the lower reservoir through turbines**, generating electricity.
- **Types:** PSP can be characterized as open-loop or closed-loop (**refer diagram**).
- **Status of pump-storage Hydropower in India**
 - ⊕ **Installed Hydro Pumped Storage Project capacity:** In India it is approximately 4.8 GW (February 2025).
 - ⊕ Around 175 GW of pumped hydro storage capacity is installed worldwide as of 2022, with leading countries being **China, followed by Japan, and the United States**.





India added two more wetland into Ramsar List of Wetlands of International Importance

Two wetlands in Rajasthan, **Khichan** and **Menar** were **declared Ramsar Sites** on world environment day 2025, raising India's total count to 91.

- World Environment Day is celebrated **annually on 5th June** (Since 1973) led by the **UN Environment Programme**. The theme for 2025 is **Beat Plastic Pollution**.
- With the addition of these wetlands, **Rajasthan now has four Ramsar sites**, including **Sambhar Salt Lake** and **Keoladeo Ghana National Park** in Bharatpur.

Ramsar Convention on Wetlands

- Genesis:** The Convention was adopted in the **Iranian city of Ramsar in 1971** and **came into force in 1975**.
- About:** It is the **intergovernmental treaty** that provides the framework for the conservation and wise use of wetlands and their resources.
 - Almost **90% of UN member states** have acceded to become **"Contracting Parties"**.
- India became a party** to the Ramsar Convention on **February 1, 1982**.
- India has the **highest number** of Ramsar sites in Asia.
- To be designated a **"wetland of international importance,"** a wetland must meet at least one of **nine criteria** established by the Ramsar Convention on Wetlands.

About New Ramsar Sites	
 Khichan Wetland	Location: Northern Thar Desert, Phalodi District (Rajasthan) It comprises two water bodies, Ratri nadi (river) and Vijaysagar talab (pond) , riparian habitat and scrub land. The site hosts large wintering flocks of migratory demoiselle cranes (<i>Anthropoides virgo</i>).
 Menar Wetland Complex	Location: Menar and Kheroda village, Udaipur District (Rajasthan). It is a freshwater monsoon wetland complex formed by three ponds (Braham talab, Dhand talab and Kheroda talab). Notable bird species are the critically endangered white-rumped vulture (<i>Gyps bengalensis</i>) and long-billed vulture (<i>Gyps indicus</i>). Over 70 plant species are found, including mango trees (<i>Mangifera indica</i>) around Braham talab that host a large colony of Indian flying fox (<i>Pteropus giganteus</i>).

RCB's IPL 2025 trophy parade takes tragic turn as stampede claims lives in Bengaluru

Stampede is **"an impulsive mass movement of a crowd** that often results in injuries and deaths" due to **Traumatic asphyxia** (cessation of respiration) or other injuries.

- In the last year, India has seen at least **six major stampedes**, taking hundreds of lives: **E.g. New Delhi Railway Station, Mahakumbh etc.**

NDMA guidelines on Crowd Management

- Capacity Planning:** By Understanding **Crowd Behavior, Crowd Control** and developing a **Stakeholder Approach**.
- Risk Analysis and Preparedness:** Identify and address potential hazards, It is recommended that all **event organizers/planners** conduct **Failure Mode and Effect Analysis (FMEA)**.
- Information Management and Dissemination:** Communicating with **visitors as well as stakeholders** and providing them with the correct information.
- Safety and Security Measures:** Use of **CCTV surveillance, barriers, emergency exits** as well as **Facilities of emergency medical services** and guidelines for traffic management.

Best Practices and Solutions for smart crowd management

- Integrated Command and Control Centers:** **Olympic Games and Large-Scale Events** use Integrated Command Centers, Crowd Flow Management and Public Communication.
- Artificial Intelligence and Machine Learning:** **Japan and Singapore** leverage advanced technology such as AI-powered crowd monitoring systems, real-time data analysis.
- Innovative planning strategies:** Which includes **zoning, crowd flow optimization, emergency response, public awareness and stakeholder collaboration**.

Triggers for Stampede

- Structural:** Disaster caused by collapse of structures **e.g. Morbi Bridge Collapse, Gujrat, (2022)**.
- Fire/Electricity:** Due to fire in the habitation or a shop, non-availability of fire extinguisher etc. **e.g. Uphaar Cinema Fire in 1997**.
- Administrative or Managerial Measures:** Underestimation of audience/staffing/services, closed/locked exit, sudden opening of entry door, etc.
- Crowd Behaviour:** Mad rush to exit/parking space, last minute change in platform for train arrival/departure, etc. **E.g. stampede at the Mahakumbh Mela in 2025**.
- Security:** Security agency firing/teargas/using force leading to panic, weapon brandished in the crowd etc. **E.g. Seoul crowd tragedy (2022)**.

Population Census-2027 to be Conducted in India Along with Enumeration of Castes

The Union Ministry of Home Affairs announced that India will conduct its next population census in two phases, with counting to be completed by March 1, 2027—the first such exercise since 2011.

- **After 2011**, Census was due in 2020-2021, but was delayed due to Covid pandemic.

Population Census-2027: Key Details

- **Notification:** Conduct of Population Census-2027 will be published in the official gazette, as per **Section 3 of the Census Act, 1948**.
- **The Census will be conducted in two phases:**
 - ⊕ **Phase I – House listing:** Details of all buildings, permanent or temporary, are noted with their type, amenities, and assets.
 - ⊕ **Phase II – Population enumeration:** Detailed information on each individual residing in the country, Indian national or otherwise noted along with their caste.
- **Reference Dates** (specific point of time for which the data on population is collected) for **Census-2027**.
 - ⊕ **For the Union Territory of Ladakh, Jammu & Kashmir and Himachal Pradesh and Uttarakhand:** October 1, 2026.
 - ⊕ **Rest of India:** March 1, 2027.
- **Census will include caste enumeration**, marking the first official collection of caste data since the 1931 exercise.
- **Digital census:** This will be the country's first digital census.

Census in India

- **Constitutional mandate:** **Article 246** of the Constitution (7th schedule – Union List – entry 69).
- **Legal provisions:** India's census is conducted under the provisions of the **Census Act, 1948** and the **Census Rules, 1990**.
- **Head:** Census organization headed by the **Registrar General and Census Commissioner**.
- The Census will be **16th decennial Census of India** since **1872** when the first systematic Census was conducted throughout the country.
 - ⊕ This will be the **8th successive exercise** conducted after Independence.
 - ⊕ The first **synchronous census** in India was conducted in 1881 under the leadership of **W.C. Plowden**, and it became **regular exercise**.
- **Significance:** The census is the principal source of official socioeconomic and demographic data that forms the basis for government schemes, policies, and planning.

India Elected to UN Economic and Social Council (ECOSOC) for 2026-28 Term

ECOSOC membership is allocated based on equitable geographical representation across **5 regional groups**: Africa, Asia-Pacific, Eastern European, Latin American & Caribbean, and Western European and other States.

- India was elected in the Asia-Pacific States category (it has 4 seats) along with **Lebanon, Turkmenistan, China**.

About UN Economic and Social Council (ECOSOC)

- **Headquarter:** New York (USA)
- **Genesis:** The UN Charter established ECOSOC in 1945 as one of the six main organs of the United Nations.
- **Nature:** It is the central platform for fostering debate and innovative thinking, forging consensus on ways forward, and coordinating efforts to achieve internationally agreed-upon goals.
- **Members:** It consists of 54 members, 18 of which are elected each year by the General Assembly for a three-year term; Each member has one vote.

Functions of ECOSOC

- **Coordination:** ECOSOC coordinates the work of the 14 UN specialized agencies, ten functional commissions and five regional commissions.
- **Policy Recommendation:** It receives reports from nine UN funds and programmes and issues policy recommendations to the UN system and to Member States.
- **Under the UN Charter, ECOSOC is responsible for:**
 - ⊕ **Promote higher standards** of living, full employment, and economic and social progress
 - ⊕ **Identify solutions** to international economic, social and health problems;
 - ⊕ **Facilitate international** cultural and educational cooperation;
 - ⊕ **Encourage universal respect** for human rights and fundamental freedoms.

ECOSOC's Functional Commissions:

- **Statistical Commission:** Established in 1946, it is the highest body of the global statistical system.
- **Commission on Population and Development:** Play primary role in the follow-up to the implementation of the Programme of Action of the International Conference on Population and Development.
- **Commission on the Status of Women:** The principal body dedicated to gender equality, women's rights, and empowerment.
- **Commission on Narcotic Drugs:** Analyzes global drug issues, addressing both supply and demand reduction.
- **Other Bodies:** Commission for Social Development, Commission on Sustainable Development, UN Forum on Forests, Commission on Crime Prevention and Criminal Justice, **Commission on Science and Technology for Development**.

Also In News



ECINET app

Election Commission of India launched ECINET App for **timely voter turnout reporting**.

- Under **Conduct of Elections Rules, 1961**, Presiding Officers (PROs) are still required to **submit Form 17C**, which contains account of votes recorded, to the polling agents nominated by candidates at the close of polling.

About ECINET app

- It is a **one-stop platform** that will integrate and reorient over **40** of ECI's existing mobile and web applications.
- Under this new initiative, the presiding officer of each polling station will now be **directly entering voter turnout** on the ECINET App **every two hours on polling day** to reduce the time lag in the **update of the approximate polling trends**.
- **To ensure that data is as accurate** as possible, the data on ECINET will be entered solely by the authorized EC official.



ICRISAT Centre of Excellence for South-South Cooperation in Agriculture (ISSCA)

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and Research and Information System for Developing Countries (RIS) launched ISSCA.

- **RIS** is a New Delhi-based **autonomous policy** research institute.

About ISSCA

- **Premier platform** dedicated to accelerating agricultural innovation, collaboration, and knowledge exchange among countries of Global South.
- **It is also aligned** with India's **DAKSHIN initiative** (A government-backed program for development and knowledge sharing among Global South countries).

About ICRISAT

- **Established in 1972**, it is a pioneering International Organization committed to developing and improving dryland farming and agri-food systems.
- **HQ:** Hyderabad (Telangana).



Taliban Sanctions Committee

Pakistan will chair **Taliban Sanctions Committee** and vice chair the **Counter-Terrorism Committee (CTC)** of United Nations Security Council (UNSC).

About Taliban Sanctions Committee

- It was established by **Resolution 1988 (2011)**.
- Imposes an **assets freeze, a travel ban and an arms embargo on individuals, groups, undertakings and entities associated with the Taliban** in constituting a threat to the peace, stability and security of Afghanistan.

About Counter-Terrorism Committee (CTC)

- It was adopted using **resolution 1373 after the 9/11 attack in 2001**.
- Objective:** According to Resolution 1373,
 - States must deny **all forms of financial support for terrorist groups**, Prevent the terrorists from acquiring **safe havens or subsistence**, **Create domestic laws** that criminalize terrorism etc.
- It consists of all **fifteen members** of UNSC and is responsible for ensuring that all States follow the resolution.



Exposomics

Study in **exposomics** can help to get a better picture of disease causes and prevention strategies.

About Exposomics

- Definition:** Exposomics is the study of the exposome and relies on the application of internal and external exposure assessment of an individual.
 - Internal exposure** relies on fields of study such as genomics, metabolomics etc.
 - External exposure assessment** relies on measuring environmental stressors.
- The exposome can be defined** as the measure of all the exposures of an individual in a lifetime and how those exposures relate to health.
- Exposomics aims** to understand how external exposures from physical, psycho-social environments interact with internal individual characteristics such as genetics, to create health or disease.



Resource Mobilisation Reform Programme

India opposed Asian Development Bank's (ADB) \$800mn loan to Pakistan under its Resource Mobilisation Reform Programme.

Resource Mobilisation Reform Programme

- Aim:** To support Pakistan to implement reforms that will help ensure fiscal sustainability.
- About ADB**
 - Multilateral organization:** ADB is a leading multilateral development bank supporting sustainable growth across Asia and the Pacific.
 - Establishment:** 1966.
 - HQ:** Manila, Philippines.
 - Members:** From 31 members in the beginning, now 69 members of which 50 are from within Asia and the Pacific and 19 outside. (India is a Founding Member).
- It launched a **Nature Solutions Finance Hub for Asia and the Pacific** at COP28.



Clean Plant Programme (CPP)

Union government has launched '**Clean Plant Programme**' for grapes, oranges and pomegranates from Maharashtra.

About CPP

- Launched by:** Ministry of Agriculture and Farmers Welfare.
- Purpose:** To revolutionize **horticulture sector** by providing farmers with access to virus-free, high-quality planting material.
- Components:**
 - Clean Plant Centers (CPCs):** Equipped with high-tech labs to produce **virus-free planting material**.
 - Certification and Legal Framework:** Certification system under **Seeds Act, 1966** will ensure accountability in production and sale of planting material.
 - Enhanced Infrastructure:** Support for large-scale nurseries to develop infrastructure for efficient multiplication of clean planting material.
- Implementation:** By **National Horticulture Board (NHB)** in association with **Indian Council of Agricultural Research (ICAR)**.



International Institute of Administrative Sciences

India won presidency of International Institute of Administrative Sciences (IIAS).

About IIAS

- Genesis:** It was established in 1930 and is headquartered in Brussels.
- Objective:** International non-profit organization, collaborating for scientific research on public administration.
- Key member countries include** - India, Japan, China, Germany, Italy, Korea, Saudi Arabia, South Africa, Switzerland, Mexico, Spain, Qatar, Morocco, Indonesia etc.
- Department of Administrative Reforms and Public Grievances** has represented India as a **Member State of IIAS** since 1998.

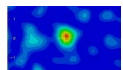


Northern Sea Route (NSR)

India has proposed to conduct a joint feasibility study for operationalising the **Northern Sea Route (NSR)** with Norwegian agencies.

About NSR or Northeast Passage (NEP)

- Location:** Maritime route along northern coast of Russia, connecting Atlantic Ocean to Pacific Ocean via Arctic waters.
- Geography:** NSR begins at the border between Barents Sea (near Norway) and Kara Sea and ends in the Bering Strait (between Russia and Alaska).
- Shortest route:** NSR has a distance of 13,000 kilometres between Europe and Asia. (Suez Canal route- 21,000 kilometres)
 - It will **reduce distance between Asia and Europe by 10-14 days** compared to the Suez Canal route.
- Ports:** Five main ports (**Sabetta, Dudinka, Khatanga, Tiksi, and Pevek**).

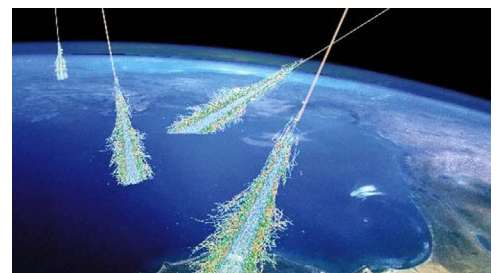


Muons

Recent U.S. experiment results show muons behaving unusually, providing intriguing insights into fundamental laws of physics.

About Muons

- Concept:** The muon is one of the fundamental subatomic particle, the most basic building blocks of the universe as described in the Standard Model of particle physics.
- Muons are similar to electrons** but weigh more than 207 times as much.
- The muon is part of the lepton group.** Leptons are a type of fundamental particle. This means they are not made of even smaller pieces of matter.
 - Like other leptons, the muon is **affected by only three (not affected by strong nuclear force) of the four fundamental forces** (gravity, electromagnetism, the strong nuclear force, and the weak nuclear force) in the universe.



AHMEDABAD



BENGALURU



BHOPAL



CHANDIGARH



DELHI



GUWAHATI



HYDERABAD



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JODHPUR



LUCKNOW



PRAYAGRAJ



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